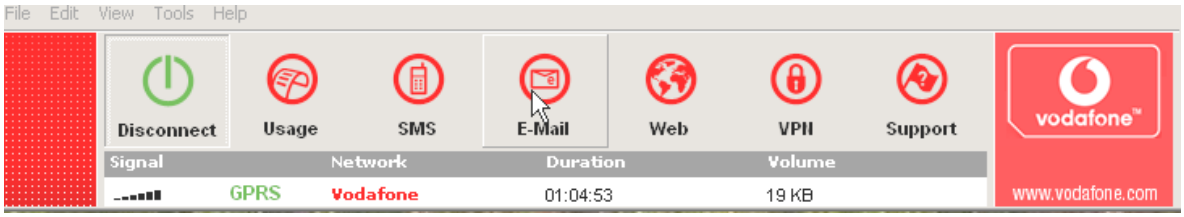
VODAFONE MOBILE CONNECT
TECHNICAL OVERVIEW

Product Overview

Vodafone Mobile Connect is a simple, secure, 'out-of-the-box' solution for remote workers who wish to have access to their company LAN (Local Area Network) when away from the office.

For the first time, Vodafone is providing customers with a pan-European product supported by Vodafone's networks across Europe.

A Vodafone branded Data Card, equipped with a GPRS-enabled SIM, forms the first part of the package. When inserted into the 'PCMCIA' socket of the customer's laptop, this provides a means of connection to Vodafone's GPRS network and, therefore, a quick, secure and reliable way of sending and receiving data while 'on the move'.



A unique piece of software, called the 'Dashboard', forms the rest of the package. This software provides a simple interface from which all the customer's data communication can be managed. A series of buttons give 'one-click' access to e-mail, web and text message functions as well as support and usage information. The product is fully supported by a dedicated website and an IT Manager's pack. This pack provides an Installation and Customisation Guide for IT Managers, helping the to configure the software in line with company network architecture, enabling end users to access the company systems.

NOTE: Although the Vodafone Mobile Connect package provides everything necessary to equip and support the end user, due to the method of connectivity used this product may require some equipment to be in place on the end user's company LAN. Initially, this product will be targeted at customers whose company LAN is equipped with a VPN concentrator (such as those produced by Cisco Systems), and whose remote workers already use a VPN Dialler for landline LAN access.

Key Features of Vodafone Mobile Connect

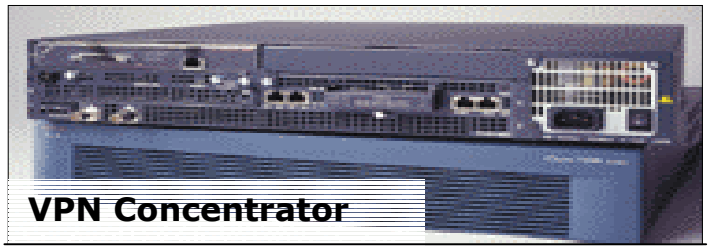
- **Vodafone branded data card**
  Offers fast data transfer over GPRS
- **Unique 'Dashboard' software**
  Manages connection (via data card) to GPRS & company LAN
  One-click access to e-mail, web or text messaging
  Plus support pages and usage statistics
- **IT Manager's pack**
  Customisation and configuration instructions

The Network

The Dashboard software (v. 3.2.29) allows the user to choose between two APN's (Access Point Name) when the product is installed. The first of these, called 'Internet', directs the Data Card to make a connection with a point on Vodafone's GPRS network from which publicly available 'Web' content can be viewed. Any public Internet site can be accessed from here; however, this method of access will not establish secure connection to a customer's company network.

The second option is to create a connection via Vodafone's 'My LAN' APN (referred to on the Dashboard set-up screen as 'Intranet'). This routes the user's connection in a different way (described below), blocking access to the public Internet and, via VPN dial-up software, creating a secure directly to the user's company LAN. This solution requires a user's company LAN to be equipped with a device called a VPN concentrator.

GPRS cannot set up a connection with a standard telephone number but works, instead, by using IP (Internet Protocol) addresses. (These are the numbers, usually in a format such as '123.456.789.10', that correspond to locations on the Internet such as the alphabetical addresses, like 'www.vodafone.co.uk', typed into Internet browsing software.) Because of this, a GPRS connection cannot be made with a standard modem. Instead, the customer's company LAN will also need a device called a VPN Concentrator attached to it. This provides a location with which a GPRS connection can be established, as well as controlling the data traffic.

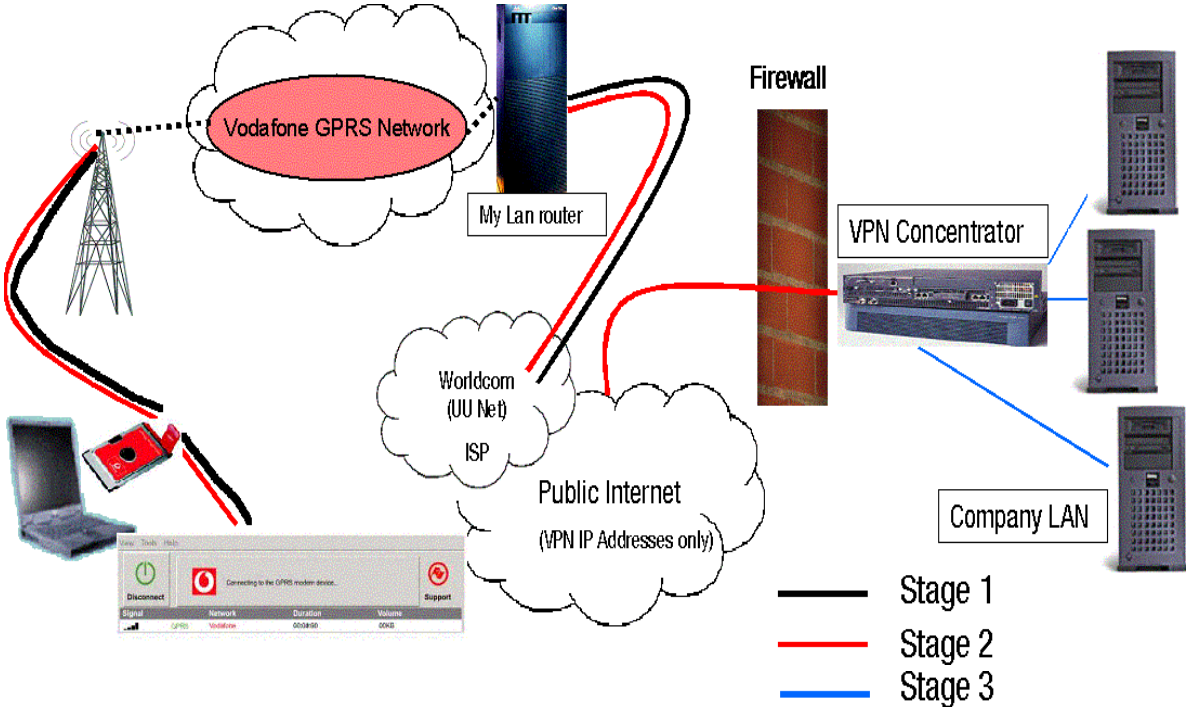

VPN Concentrator

The dial-up over GPRS, via 'MyLAN' to create a VPN connection is a three-stage process:

- Firstly, a connection is established with Vodafone's GPRS network (via the 'MyLan' APN and Vodafone's Internet Service Provider) to an open Internet connection. The user is provided with a temporary IP address from which information can be sent and received. (This is different from a connection via the 'Internet' APN and the user has no access to any web-based (www) information).

- Secondly, the user launches their VPN dial-up software. This software is programmed with the IP address of the VPN Concentrator attached to the company LAN, managing connections into the company network.

- Thirdly, having made contact (over GPRS) with the Concentrator, the VPN dial-up software sets up a communication to verify the identity of the end user. Usually this will involve some manual password verification. Once the identity of the user has been verified, a secure connection can then be set up between the end user and company LAN. This secure connection is called an 'IPSec (Internet Protocol Security) Tunnel'.



However, it is also possible for companies to make use of the Mobile Connect product if they have a private APN in place (i.e. they've paid Vodafone to set up a direct link from a point on Vodafone's GPRS network to their LAN). In this instance IT Managers would need to follow the instructions in the IT Manager's pack, either to manually configure the end user's Dashboard with the private APN, or to create a new installation disk.

The Data Card

The Vodafone Mobile Connect package contains a Vodafone-branded data card manufactured by Options. Key features of the card are as follows:

- 'Pop-up' antenna integral to card (reduces risk of antenna damage)
- Fast data transfer over GPRS

The user simply inserts a Vodafone SIM into the SIM-card slot of the data card, then slides the data card into the PCMCIA socket of their laptop

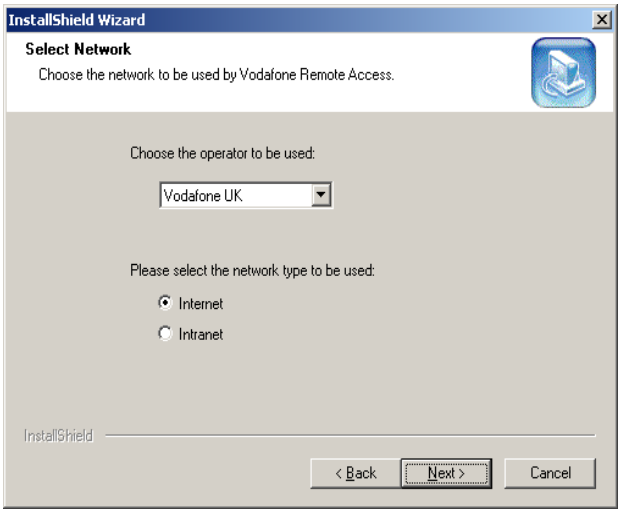
- During installation of the Dashboard software, the User must insert the data card when prompted. The card drivers will then automatically install.

- The card's antenna must be 'popped-up' before launching a connection.
- When connected to Vodafone's GPRS network, the blue light on the card will flash twice per second.

The Dashboard

Vodafone's unique 'Dashboard' software provides customers with a single access point for web access, e-mail and all their LAN applications. Users can also send and receive text messages as well as accessing usage statistics and support details.

Installing



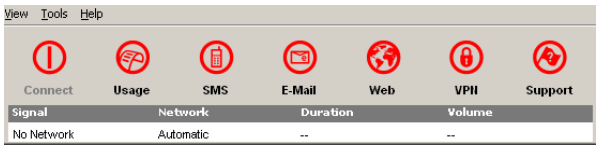
On inserting the Dashboard CD-Rom for the first time, the software will automatically launch the Installation wizard from which both the Dashboard software and drivers for the data card are installed.

The installer will prompt for choice of network. Customer should choose 'Vodafone UK'. When a user visits another country and uses the GPRS service there, the local Vodafone Group network will ensure that the user's IP traffic is routed back to the home network. Therefore, it is not necessary to modify choice of network operator or re-install software if a user travels to another country.

The installer will also prompt the user to chose which APN(s) they wish to connect to (or via) . 'Internet' refers to Vodafone UK's 'Internet' APN, allowing access to www content. 'Intranet' refers to the 'MyLAN' APN, from which VPN connections can be established.

NOTE: As of November 2002, the Dashboard will ONLY allow the Internet and MyLAN APNs to be configured form this screen. Future software versions will allow the use of private APNs, but at present the user can only adjust the APNs via the registry (See IT Manager pack for instructions)

Connecting…



The customer experience and functionality of the Dashboard will vary, depending on how the user has configured the card during the installation process.

If using the public 'Internet' APN, pressing 'Connect' will set up a connection to a point on Vodafone's GPRS network from which public Web-based information can be accessed. Customer's would only be able to access e-mails etc if this was stored on a public website. In this situation the VPN button would not appear.

If using the 'MyLAN' APN, access to the company LAN is a two-stage process. The user must first connect to the GPRS network (by pressing the 'Connect' button), and then launch their VPN dial-up software by pressing the 'VPN' button. The VPN button can be configured to launch any dial-up software program (instructions in IT Manager pack).

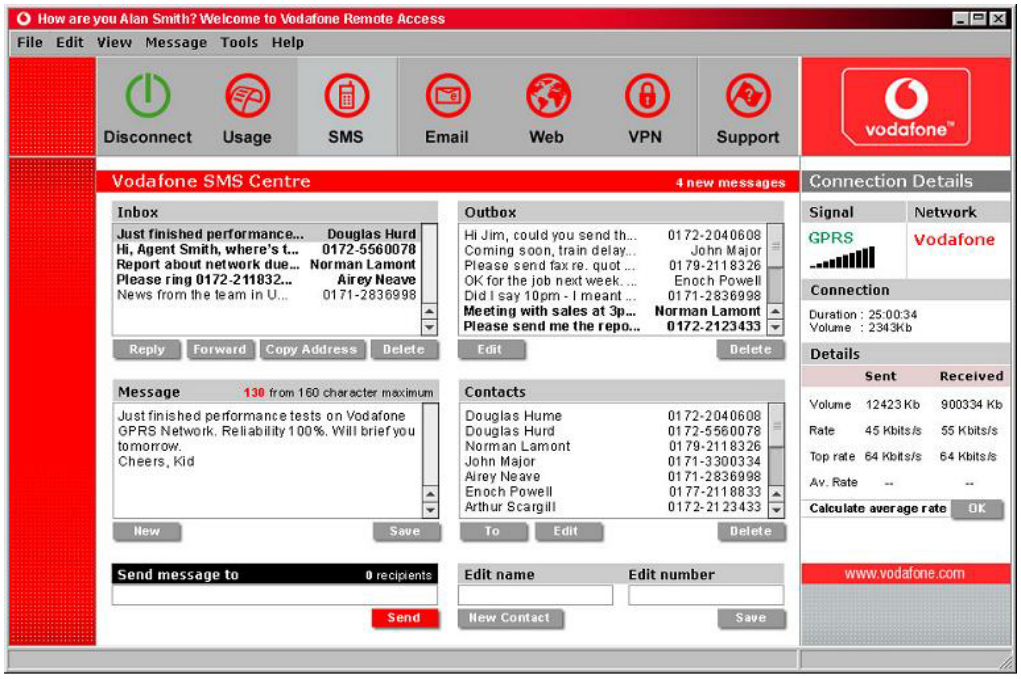
Web and E-mail access

The e-mail button is set by default as a shortcut to the user's usual e-mail client (e.g. Outlook), but can be customised to launch other programs (e.g. Outlook Express)

The Web icon will launch the user's default web browser (e.g. Internet Explorer), but this can also be customised to launch any other web browsing software (e.g. Netscape). Web access depends on the customer's IT set-up and connectivity set-up. This button can be removed completely if desired.

Text Messages

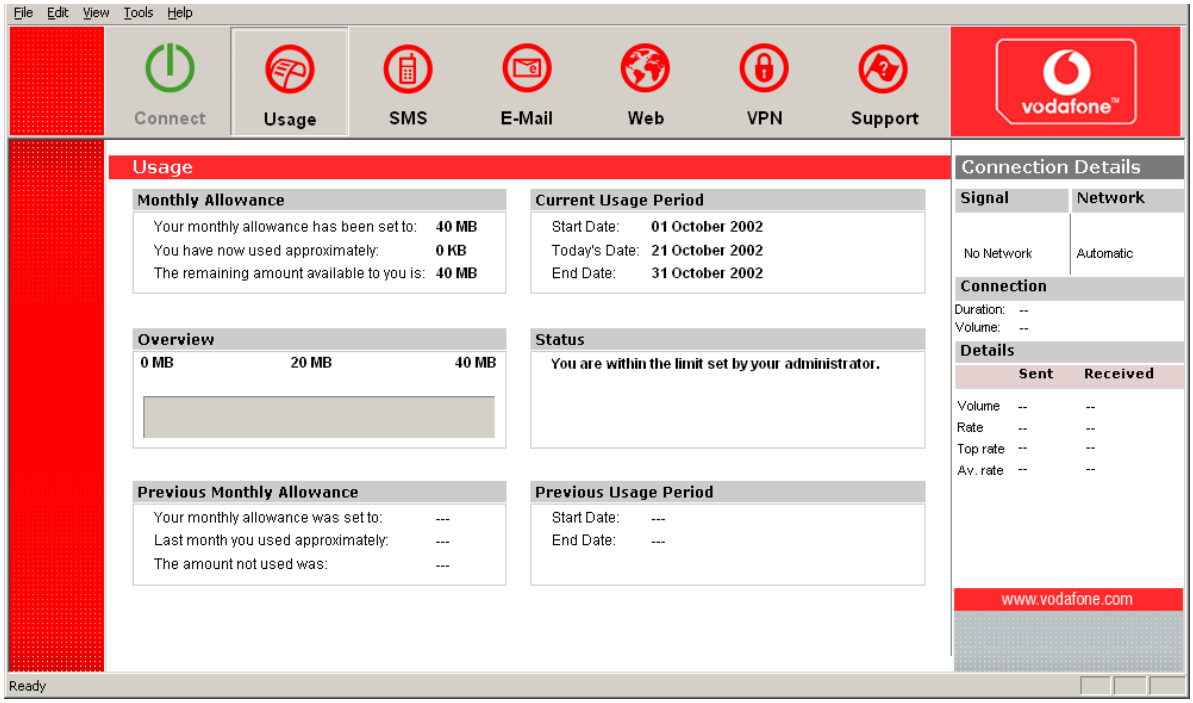
The 'SMS' button provides access to text messaging functions, from which messages can be composed, read and sent. When first installed, the Dashboard software will read any messages stored on the SIM, which is inserted into the Data Card. These messages will appear in the 'Inbox'.



- Sent messages will automatically be stored in the Outbox, but can be saved onto the SIM card also, if desired (the software will prompt the user).
- Messages received while using the software may also be copied to the SIM, up to the maximum space available on the SIM card for SMS storage
- Sent messages will be charged against the user's account as per any normal SMS usage. The message is sent using the SIM in the data card and so will show as having been sent from the mobile number attached to that SIM
- Text messages can be sent from a SIM even if it is not attached to a voice tariff. The 'Inbox' stores messages on the hard-drive of the user's PC. Storage space is thus dependent on the space on the hard drive but due to the very small file sizes many hundreds of messages can usually be stored.
- To import 'Contacts' from SIM, go to the 'File' button at the top of the screen and select 'Import Contacts' from the drop-down menu. These can also be created from incoming messages, or manually.

Usage statistics

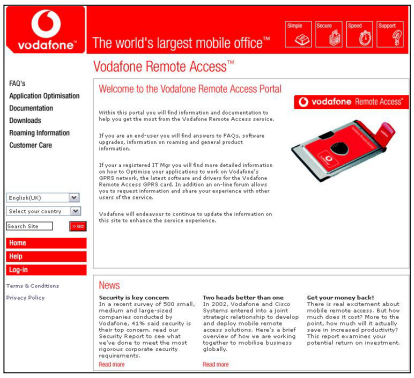
The 'Usage' section of the Dashboard provides the user with details of their activity, including speeds of data transfer and volumes of data used.



A 'Monthly Allowance' can be set by the IT Manager, (see IT Manager's Pack for instructions). The Dashboard will then show the data volumes against this limit.

NOTE: This feature allows the IT Manager to set a monthly data limit so that the end user is aware of any potential overspend on data usage. However, though reaching the limit set will produce a prompt for the user to contact their IT department, it does not prevent the user from using the service, nor is it as accurate as the actual billing system itself, it is merely indicative of the overall usage.

Support



The 'Support' section of the Dashboard software can be configured by IT Managers to include contact details of their company IT Helpdesk

A comprehensive help file is also available by clicking on 'Help' on the toolbar at the top of the Dashboard

The 'Support' page also lists the Vodafone customer services number and provides a link to www.vodafone-remote-access.com, which features downloads, optimisation instructions and answers to common questions

Key benefits of Vodafone Mobile Connect

- Secure access to office applications & info - anytime, anywhere.

- Simplicity for the user.
  Unique Dashboard software acts as interface for all communication.
  Single-click access to e-mail, web or text message applications.
  Easy to set-up and use.

- Simple to support.
  Bundled package of data card and software.
  Telephone and Europe-wide web-based help.

- Vodafone branded - developed, tested and approved solution.
  Pan European footprint - part of the World's Largest Mobile Office.